4.4 RECREATION

4.4.1 Environmental Setting

The city of Carlsbad includes approximately 6.5 miles of high quality beaches that are intensively used by residents and visitors for recreation. Many additional high quality beaches are located on the 48-mile long coastline south of the city of Carlsbad, and collectively these San Diego County beaches provide multiple recreation-related opportunities to millions of residents and visitors annually. The common recreation uses include surfing, surfboarding, boogie boarding, walking, jogging, sunbathing, picnicking, swimming, snorkeling, SCUBA diving, kayaking, and fishing, as well as beach sports such as Frisbee, paddleball, and volleyball.

The proposed Project would be reconstructed on a portion of Carlsbad State Beach, which extends about a mile to the north of the Project site (North Beach), and 1.5 miles to the south (Middle Beach and South Beach). South of Carlsbad State Beach is South Carlsbad State Beach. The California State Department of Parks and Recreation manages both of these State beaches. This department reports an average monthly attendance at Carlsbad State Beach and South Carlsbad State Beach of approximately 126,400 visits, consisting of approximately 43,190 vehicle visits and 83,240 non-vehicle visits. They reported 653,227 visitors during the 11-month period, July 2000 through May 2001.

North Beach is the part of Carlsbad State Beach north of the Project site. The 0.3 mile-long section of North Beach from the Project site to Tamarack Avenue is known as Tamarack Beach. The beach immediately south of the Project site, between the northern inlet and the Station warm water outfall, is known as Middle Beach, and the section of Carlsbad State Beach south of the warm water outfall is known as South Beach. Some specific information about recreation activities on each beach is provided in the following paragraphs.

Tamarack Beach is primarily a surfing destination, but other uses occur including walking, jogging, sunbathing, picnicking, swimming, snorkeling, SCUBA diving, as well as beach sports such as Frisbee, paddleball, and volleyball. The beach has public restrooms and showers. Lifeguards staff the beach full-time during the summer, from July to September, and part-time the rest of the year. There are 124 spaces in the parking lot at Tamarack Beach and parking is free. The City of Carlsbad pays the California State Parks and Recreation Department $30,000 per year to keep the parking

free. Beachgoers also park along the west side of Carlsbad Avenue and on busy days the parking overflow spreads to the residential areas east of Carlsbad Avenue.

Tamarack Beach is the location for a number of yearly city of Carlsbad events: the Carlsbad Triathlon combined with the Seaside Celebration, which are held over a weekend in July and involve merchant displays and entertainment in addition to the race; the Women's Surf Contest; and other surf contests such as the ISSF Scholastic Surfing Contest. The Triathlon and Seaside Celebration draw approximately 1,200 participants and it is estimated that 30 percent of the participants are housed for one to two nights in local hotels. The City of Carlsbad receives $75,000 to $100,000 in revenues from fees and an estimated $7,500 in sales tax on an estimated $100,000 spent on hotels, restaurants, and retail expenditures by visitors during this event.

Surfing is less common north of Tamarack Avenue, where such activities as walking, fishing, and picnicking are more dominant.

Middle Beach is not primarily used for surfing, but there is significant surf-related activity there. It is reportedly used mostly as a family recreation area with a significant number of sunbathers and swimmers.

South Beach is a significant site for surfing, particularly during periods of western swells, along with beach activities such as sunbathing, swimming, and picnicking. A sandbar off the southern pair of outfall jetties creates a premier surf spot that breaks on the north, west, and south swells. Kayaking activity has substantially increased here recently, particularly during lesser southwest swell activity.

On average, there are no distinct peak times of the year for use of any of the beaches, although the surf is bigger in the summer (July to September). Middle Beach gets somewhat more use for swimming, sunbathing, and picnicking in the summer and South Beach is used more in the winter. Although each of these beaches is used more intensely for certain activities, depending on the characteristics of the surf, beach visitation varies from year to year depending on the sand deposition. In general, the beach with the greatest amount of sand is used more intensely.

Tamarack Beach has been a popular surfing location since the 1940s and is designated as a surfing-only beach by the California State Department of Parks and Recreation Lifeguard Service. Tamarack Beach has a "most open south window," known for receiving direct waves out of the south, which is considered highly favorable by surfers. This beach has been compared to the Steamers' Lane (Trestles) Beach in Santa Cruz,

California, which is well known for its surfing quality. The most highly regarded surfing spots at Tamarack Beach are Middles, Main Peak, Spotland, In-Between, and Southside. These "breaks" accommodate a wide range of surfers (body surfers, body boarders, and stand-up surfers from beginners to advanced).

Information was collected by the Applicant on surfing at Tamarack Beach, including demographic data, favorite surf spots, types of equipment used, levels of experience, factors influencing choice of surfing location, surfing frequency, and wave preferences (Hofman Planning Associates 2001). The information showed that surfers come to Tamarack Beach an average of every other day and prefer the Main Peak, Spotland, Southside, Middles, and In-Between locations, in that order. The surfers averaged 30 years old, arrived by car after driving an average of 18 miles, and reported that the waves break best at mid-tide (incoming from low to high) during south or southwest swells.

There are additional recreation opportunities available within Agua Hedionda Lagoon. The Lagoon consists of the Outer Lagoon, Middle Lagoon, and Inner Lagoon. All of these areas provide passive recreation opportunities such as walking, wildlife observation, and scenic viewpoints. Recreational fishing takes place in the Outer Lagoon. Recreation activities in the Middle Lagoon include swimming, sailing, and fishing. This is also the site of the YMCA aquatic park. Permits are governed by the CDFG and the Applicant provides policing services. The City of Carlsbad manages the water surface of the Inner Lagoon and provides policing for water activities. Permits are issued for operation of any boat in the Lagoon. Activities include boating, fishing, and boardsailing. There are private and semi-private boat and docking/launching facilities. Major boating facilities include Snug Harbor and Whitney's Landing, both located on the north shore. Snug Harbor includes a cruise boat, a water skiing boat, wave runners, kayaks, canoes, and peddle boats. There are kayaking tours and lessons, and various types of equipment for rent. Facilities at The Carlsbad Boat Club and Bristol Cove are restricted to members only.

4.4.2 Regulatory Setting

Plans adopted by the City of Carlsbad include policies and objectives generally relating to the encouragement and protection of beach-related recreation, as described in the following.

The City of Carlsbad General Plan includes recreation in the first paragraph of the vision statement:

- "A city that provides a balanced variety of land uses for living, business, employment, recreation, and open space opportunities."

The City of Carlsbad General Plan Parks and Recreation Element states:

- "The City of Carlsbad is strongly committed to the development of park facilities and recreation programs to meet the needs of its citizens, tourists, and employees. The City has determined that park and recreation facilities contribute significantly to the quality of life of its residents…"

And the General Plan Parks and Recreation Element includes the objective:

- "To improve the recreational and educational potential of the city's three (3) lagoons and beach areas."

Finally, the 2002 State of California Outdoor Recreation Plan recognizes beach activities as the fourth most popular outdoor recreation category for State residents, with an estimated 67.8 percent of the State's population reportedly participating in such activities.

4.4.3 Significance Criteria

The following criteria were used to determine whether impacts would be considered significant. The evaluation is posed as a question, as follows.

Would implementation of the proposed actions:

- Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated;
- Include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment; or
- Substantially conflict with, reduce access to, or alter the character of established or planned recreational uses.

4.4.4 Impact Analysis and Mitigation

The effects of the reconstruction of the proposed Project and the physical presence of the extended jetty were evaluated and discussed in Section 4.1, Biological Resources.

These were determined to be less-than-significant Class III impacts. This section of the EIR evaluates the recreation-related effects of potential changes in beach width along about 2 miles of beaches within the city of Carlsbad. It also evaluates the effects of the proposed Project on surfing conditions along affected beaches, particularly at Tamarack or North Beach.

Impact REC-1: Increased Width of North Beach

The widening of North Beach will be a beneficial impact to certain beach-related recreational activities (Class IV).

Beaches are important recreational resources in the city of Carlsbad and along the San Diego County coastline, and maintaining beach width and surfing conditions is important in preserving recreational opportunities and use. The beaches are used by a large number of residents and visitors, virtually all of which place substantial value on beach width. More than 126,000 visitors were recorded during one month by the State Department of Parks and Recreation at just one of the several city of Carlsbad beaches.

If the proposed Project functions as designed, or if artificial infilling is required to assure sand bypassing, approximately 1 mile of the Carlsbad State Beach north of the Project site could become wider. The widening would be most pronounced immediately adjacent to the extended jetty, on Tamarack or North Beach, where the beach could become as much as about 400 feet wider than the present width of about 200 feet. The widening would become less pronounced toward the north, with none occurring at Christiansen Way. Beach widening is considered a beneficial effect in considering certain types of beach-related recreational activities, including walking, sunbathing, and swimming, as well as beach sports such as Frisbee, paddleball, and volleyball. As such, in considering these uses, the widening of the Carlsbad State Beach north of the Project site is considered a Class IV beneficial impact.

Mitigation Measure for Impact REC-1: Increased Width of North Beach

MM REC-1: No mitigation is required.

Impact REC-2: Changes in Surfing Conditions at Tamarack Beach

Changes in surfing conditions potentially conflict with established recreational use and have the potential to substantially alter surfing-related existing recreational use opportunities (Class I).

Surfing could be adversely affected along Carlsbad State Beach, particularly at Tamarack or North Beach, which is an important surfing beach. It is well known for its high quality surfing conditions and experience, and is heavily used by residents and visitors. Project-related beach widening has the potential to change the direction and characteristics of breaking waves. In addition, the proposed Project would extend the jetty through the surf zone and may cause substantial changes to the existing pattern of breaking waves. A buildup of sand offshore could have positive or negative effects. Although most surfers equate more sand with better surf, there is some concern that additional sand might cover offshore reefs, eliminating the abrupt shoaling that makes the waves "throw out" or "tube." Although this is possible, a buildup of sand offshore could also improve surf conditions. For example, surfers active over the last four decades report that much more sand was present at Seaside Reef (south of Tamarack) in the 1960s and 1970s. The sand beach was over 100 feet wide, providing a good beach break in addition to the reef breaks offshore. The abundant sand offshore bridged the outer and inner rock reefs at Seaside allowing surfers to ride from the outside reef all the way to the beach. Offshore erosion removed the sand "bridge" in the 1980s. Since then, waves break at the outer reef, and then back off until hitting the inner reef. Long connected rides are no longer possible. Surfers at Seaside support local sand amendment projects with the potential for reconnecting the inner and outer breaks. At Tamarack, additional sand offshore might bridge Main Peak with Spotland, creating a longer, connected right break on north and northwest swell.

Changes in the surfing conditions at the Spotland, In-Between, and Southside breaks have the potential to alter the character and use of an established recreational use, and to potentially alter existing surfing-related recreational resource. These changes are considered to be potentially significant adverse impacts. However, it is presently difficult to predict, with absolute certainty, how complex processes might respond to coastal structures and substantial subtidal deposition. Modeling is one tool that can help predict the responses of coastal processes to the proposed Project. However, the results of the modeling done for the proposed Project are inconclusive and there are limitations on the ability of existing modeling to predict specific outcomes.

Available information indicates that some alteration of the wave climate in the project area will occur and that such changes could, depending on the perceptions and skill levels of surfers, be perceived as either positive or negative. It is difficult to identify, with existing information about and analysis of the project area, absolute impacts for which effective mitigation measures can be developed. Accordingly, the potential alteration of area surfing conditions is viewed as Class 1.

Mitigation Measure for Impact REC-2: Changes in Surfing Conditions at Tamarack Beach

MM REC-2: Surfing conditions will be monitored for five years following completion of the Project to identify alterations to the quality of the surfing experience at Tamarack Beach. Monitoring should consist of a combination of interviews of active surfers who have surfed Tamarack Beach for at least the five years prior to the completion of the Project, and a description of applicable physical surf conditions at the time of the survey such as wind speed and direction, wave patterns and direction, and status of tides. The survey should be conducted at times of peak usage and representative surfing conditions by a person, organization or firm approved in advance by the CSLC, which has a demonstrated knowledge of surfing and of local surf conditions. The surveys should be conducted three times a year during the early spring, summer and late fall to document the full extent of surfing conditions. Representative photographs shall be included in the reports. The annual survey reports shall be submitted to the CSLC by January 1st of each year.

A final report that incorporates the results of the annual survey reports and contains conclusions and recommendations (if necessary), shall be presented to the CSLC at the end of the five-year monitoring period

Should the final report document significant detrimental alterations in project area surf conditions, the Applicant shall propose, for CSLC review and approval, a qualified person, organization or firm that will be retained to determine: (1) the physical changes to the ocean environment responsible for such alterations, e.g., changes in bathymetry, sand disposition and the like, and 2) whether feasible engineering solutions exist to improve surf conditions by modifying such changes.

Rationale for Mitigation

Other mitigation strategies were considered, but none was determined to be demonstrably effective in addressing existing uncertainties in the project area.

Predicting the changes that might occur to surfing involves uncertainty both to impacts and relevant mitigation because of the complexity of coastal processes.

Impact REC-3: Changes in Surfing Conditions at South Beach

Changes in surfing conditions potentially conflict with established recreational use and have the potential to substantially reduce surfing-related existing recreational use opportunities (Class I).

If the proposed Project functions as designed, beaches on approximately one mile of coastline south of the project site could be reduced in width. The most pronounced reduction in width could occur at South Beach, becoming less pronounced with distance, and having no effect at about Cannon Road. The amount of beach narrowing was not quantified, but the existing jetty has caused a reduction of width at South Beach of about 35 percent of its width since 1947. This reduction in width has occurred despite periodic sand replenishment by the Applicant. The extension of the existing jetty by 200 feet could potentially exacerbate this existing problem. A substantial reduction in width of Middle Beach and South Beach could convert the sandy beaches into gravel beaches, which would cause substantial conflict with existing recreational uses.

Changes in the surfing conditions at South Beach would be attributable to the effects of coastal processes and beach erosion on wave direction and character have the potential to substantially alter an established recreational resource. On South Beach, a sandbar off the southern pair of jetties creates a premier surf spot that breaks on the north, west, and south swells. On the same bases as previously discussed with respect to Tamarack Beach, potential changes to this surf spot are considered to be a Class I impact.

Mitigation Measure for Impact REC-3: Changes in Surfing Conditions at South Beach

MM REC-3: Surfing conditions will be monitored for five years following completion of the Project to identify alterations to the quality of the surfing experience at Tamarack Beach. Monitoring should consist of a combination of interviews of active surfers who have surfed Tamarack Beach for at least the five years prior to the completion of the Project, and a description of applicable physical surf conditions at the time of the survey such as wind speed and direction, wave patterns and direction, and status of tides. The

survey should be conducted at times of peak usage and representative surfing conditions by a person, organization or firm approved in advance by the CSLC, which has a demonstrated knowledge of surfing and of local surf conditions. The surveys should be conducted three times a year during the early spring, summer and late fall to document the full extent of surfing conditions. Representative photographs shall be included in the reports. The annual survey reports shall be submitted to the CSLC by January 1st of each year.

A final report that incorporates the results of the annual survey reports and contains conclusions and recommendations (if necessary), shall be presented to the CSLC at the end of the five-year monitoring period

Should the final report document significant detrimental alterations in project area surf conditions, the Applicant shall propose, for CSLC review and approval, a qualified person, organization or firm that will be retained to determine: (1) the physical changes to the ocean environment responsible for such alterations, e.g., changes in bathymetry, sand disposition and the like, and 2) whether feasible engineering solutions exist to improve surf conditions by modifying such changes.

Rationale for Mitigation

Other mitigation strategies were considered, but none was determined to be demonstrably effective in addressing existing uncertainties in the project area. Predicting the changes that might occur to surfing involves uncertainty both to impacts and relevant mitigation because of the complexity of coastal processes.

Impact REC-4: Narrowing of Middle Beach and South Beach

Conversion of sandy beaches into gravel beaches will substantially conflict with existing recreational uses (Class II).

If the proposed Project functions as designed, beaches on approximately 1 mile of coastline south of the Project site could be reduced in width. The most pronounced reduction in width could occur at Middle Beach and South Beach, becoming less

pronounced with distance, and having no effect at about Cannon Road. The amount of beach narrowing was not quantified, but the existing jetty has caused a reduction of width at Middle Beach of about 65 percent when compared with its pre-construction condition in 1947. South Beach has lost about 35 percent of its width since 1947. This reduction in width has occurred despite periodic sand replenishment by the Applicant. The extension of the existing jetty by 200 feet could potentially exacerbate this existing problem. A substantial reduction in width of Middle Beach and South Beach could convert the sandy beaches into gravel beaches, which would cause substantial conflict with existing recreational uses. It would have significant impacts upon recreation use and opportunity for a large number of city of Carlsbad residents and visitors. The existing recreational uses that would be impacted include surfing, surfboarding, boogie boarding, walking, jogging, sunbathing, picnicking, swimming, snorkeling, SCUBA diving, kayaking, and fishing, as well as beach sports such as Frisbee, paddleball, and volleyball.

A substantial reduction in width of Middle Beach and South Beach could convert the sandy beaches into gravel beaches, which would cause substantial conflict with existing recreational uses. It would have significant impacts upon recreation use and opportunity for a large number of city of Carlsbad residents and visitors. The existing recreational uses that would be impacted include surfing, boogie boarding, walking, jogging, sunbathing, picnicking, swimming, snorkeling, SCUBA diving, kayaking, and fishing, as well as beach sports such as Frisbee, paddleball, and volleyball. For these reasons, this is considered a Class II impact.

Mitigation Measure for Impact REC-4: Narrowing of Middle Beach and South Beach

MM REC-4: Implement Mitigation Measure MM WQ-2.

Rationale for Mitigation

Restoring the widths of Middle Beach and South Beach to the widths that existed when the NOP was circulated for the proposed Project would assure existing conditions are not substantially changed by the proposed Project. The use of bathymetry from the back of the beach to a water depth of 45 feet is necessary to assure any substantial changes in beach width are related to a reduction in longshore transport and are not due to seasonal variability. That is, substantial reductions in beach width and reductions in the volume of sand present offshore would confirm the need for sand replenishment.

4.4.5 Impacts of Alternatives

No Project Alternative

The No Project Alternative would avoid the potential additional impacts to beach width and therefore would avoid the recreation-related impacts of the proposed Project upon beaches to the south of the Project site. It would also avoid impacts to surfing at Tamarack and South Beach. The Project objective of decreasing the frequency of dredging in Agua Hedionda Lagoon would not be achieved.

Reduced Maintenance Dredging Alternative

This Alternative would avoid the potential impacts to beach width and therefore would avoid the recreation-related impacts of the proposed Project. The Project objective of decreasing the frequency of dredging in Agua Hedionda Lagoon would not be achieved, but the volume of material annually dredged would be reduced and the alternative would satisfy the underlying desire of the Applicant to reduce capital expenditures related to maintenance dredging. Potential alterations to surf conditions are not anticipated under this alternative.

Offshore Water Intake Structure/Cessation of Lagoon Maintenance Dredging Alternative

This alternative would avoid the long-term impacts to beaches and therefore would avoid the recreation-related impacts of the proposed Project upon beaches to the south of the Project site. It would also avoid impacts to surfing at Tamarack and South Beach. The construction of this alternative would have short-term impacts on recreation access and opportunity, since a portion of Middle Beach would be needed for staging and access, and is considered a Class III impact. This alternative would achieve the Project objective of decreasing the frequency of lagoon dredging.

Impact ALT. 1 REC-1: Impacts from closure of the entrance to the Agua Hedionda Lagoon due to cessation of Maintenance Dredging

Closure of the entrance to the Aqua Hedionda Lagoon would degrade water quality due to lack of tidal circulation and adversely impact existing recreational values of the Lagoon (Class II)

Lack of tidal circulation would likely degrade water quality increasing water temperatures, eliminating flushing flows and increasing the potential for algal blooms,

resulting low dissolved oxygen levels, odors and increased organic materials, adversely impacting recreation uses in the Aqua Hedondia Lagoon. This is a Class II impact.

Mitigation Measure for Impact ALT. 1 REC-1: Impacts from closure of the entrance to the Agua Hedionda Lagoon due to cessation of Maintenance Dredging

MM ALT. 1 REC-1: Maintenance dredging. Maintenance dredging will be required to assure that the inlet to the lagoon remains open and that adequate tidal circulation is maintained and that the existing water quality is maintained in Agua Hedionda Lagoon. The minimum maintenance dredging necessary to allow tidal circulation to maintain current recreational, values of the lagoon would be an estimated 20,000 cubic yards per year. Dredging would be reduced from the current average of 134,000 cubic yards per year to 20,000 cubic yards per year.

Rationale for Mitigation

Maintenance of tidal circulation in the Lagoon is required to avoid impacts to water quality and existing recreation uses.

4.4.6 Cumulative Projects Impact Analysis

Both the SANDAG Regional Beach Sand Project and the proposed Project would continue periodic disposal of beach sand upcoast of the proposed Project, which would have the potential to increase the width of the beach north of the upcoast jetty. The amount of beach sand deposited by the Applicant following completion of the proposed Project is expected to be reduced since the extended jetty is designed to reduce the frequency and amount of maintenance dredging. Nevertheless, the cumulative effect, if any, would be an augmentation of the beach and a reduced conflict with adopted plans and policies that favor maintenance of wider beaches. Neither of these projects, as currently proposed, targets Middle Beach or South Beach, and therefore neither would likely reduce cumulative impacts to a less-than-significant level. However, if approved, the proposed Project will include mitigation that obligates the Applicant, as necessary, to maintain Middle and South beaches at 2001 widths, which would mitigate this potentially significant cumulative impact (Class II).

Implemented in 2001, the SANDAG Regional Beach Sand Project increased beach width at North Beach by 11 feet to 27 feet close to the existing northern inlet jetty, and by 60 feet at the northern-most extent of Carlsbad State Beach (see Appendix C). The Applicant's disposal of sand at North Beach may also have contributed to this increase

in width. The SANDAG project had no lasting effect on the widths of Middle Beach or South Beach.